CLAIMS

1. A crystal of (23S)-1α-hydroxy-27-nor-25-methylenevitamin D_3-26,23-lactone which shows characteristic peaks of a powder X-ray diffraction pattern approximately at 12.65°, 15.05°, 15.20°, 16.85°, 17.30°, 17.50°, 18.70°, and 19.10°, whereby the reflection angle is expressed with 2θ.

2. A crystal of (23S)-1α-hydroxy-27-nor-25-methylenevitamin D_3-26,23-lactone which has characteristic peaks at 3482 cm^{-1}, 2946 cm^{-1}, 1744 cm^{-1}, 1663 cm^{-1}, 1433 cm^{-1}, 1364 cm^{-1}, 1281 cm^{-1}, 1144 cm^{-1}, 1038 cm^{-1}, 957 cm^{-1}, 897 cm^{-1}, 816 cm^{-1}, 741 cm^{-1}, 627 cm^{-1}, and 534 cm^{-1} in an infrared spectroscopic analysis.

3. The crystal according to claim 1 or 2, which is obtained by crystallization from a solution that is prepared by dissolving (23S)-1α-hydroxy-27-nor-25-methylenevitamin D_3-26,23-lactone in an organic solvent.

4. The crystal according to claim 1 or 2, which is obtained by crystallization from a solution that is prepared by dissolving (23S)-1α-hydroxy-27-nor-25-methylenevitamin D_3-26,23-lactone in a mixed solvent consisting of an organic solvent and water.

5. The crystal according to claim 3 or 4, wherein the organic solvent is 1 kind or 2 kinds or more of organic solvents selected from the group consisting of methanol, ethanol, acetonitrile, methyl acetate, ethyl acetate, isopropyl acetate, isobutyl acetate, methyl formate, ethyl formate, and acetic acid.

6. A pharmaceutical composition that contains the crystal of (23S)-1α-hydroxy-27-nor-25-methylenevitamin D_3-26,23-lactone according to any one of claims 1 to 5 as an active ingredient.

7. The pharmaceutical composition according to claim 6, which is a therapeutic drug for osteoporosis, malignant tumor, psoriasis, hyperparathyroidism, inflammatory respiratory disease, rheumatoid arthritis, diabetes mellitus, hypertension, alopecia, acne, dermatitis, hypercalcemia, or Paget's disease of bone.

8. A process for producing the crystal according to claim 1 or 2, wherein the process is characterized by crystallization from a solution that is prepared by dissolving (23S)-1α-hydroxy-27-nor-25-methylenevitamin D_3-26,23-lactone in an organic solvent.

9. A process for producing the crystal according to claim 1 or 2, wherein the process is characterized by crystallization from a solution that is prepared by dissolving (23S)-1α-

hydroxy-27-nor-25-methylenevitamin D_3-26,23-lactone in a mixed solvent consisting of an organic solvent and water.

10. The process for production according to claim 8 or 9, wherein the organic solvent e is 1 kind or 2 kinds or more of organic solvents selected from the group consisting of methanol, ethanol, acetonitrile, methyl acetate, ethyl acetate, isopropyl acetate, isobutyl acetate, methyl formate, ethyl formate, and acetic acid.

11. The process for production according to claim 8 or 9, wherein the organic solvent is 1 kind or 2 kinds or more of organic solvents selected from the group consisting of methanol, ethanol, acetonitrile, and acetic acid.

12. The process for production according to claim 8 or 9, wherein the organic solvent is acetonitrile.

13. The process for production according to claim 8 or 9, wherein the organic solvent is methanol.

14. The process for production according to claim 8 or 9, wherein the organic solvent is ethanol.